GenCore version 5.1.4_p5_4578

OM protein - protein search, using sw model

Run on: March 14, 2003, 09:22:34 ; Search time 24.9038 Seconds
(without alignments)
2108.144 Million cell updates/sec

Title: US-09-836-077-4
Perfect score: 2120
Sequence: 1 MTPPPPGRAAPSAPRARVLS.....TFQVADSHPEVAQRVEPMGP 394

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_101002:*
1: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*
2: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
3: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA1982.DAT:*
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22: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
23: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2120	100.0	394	20	AAW92805	EP-892047 Seq ID 4
2	2115	99.8	664	21	AAY82434	Mouse CDw108 prote
3	1897	89.5	666	20	AAY39445	Human semaphorin Z
4	1897	89.5	666	20	AAY28552	SBSEMVL polypeptid
5	1897	89.5	666	20	AAW92804	EP-892047 Seq ID 3
6	1897	89.5	666	21	AAY82433	Human CDw108 prote
7	1897	89.5	666	21	AAY55009	Human semaphorin,
8	1897	89.5	666	22	AAE02650	Human Sema7A prote
9	1755	82.8	634	21	AAY56854	Human semaphorin K
10	948.5	44.7	215	20	AAY28553	SBSEMVL polypeptid
11	902	42.5	606	21	AAY56855	Semaphorin K1 poly
12	552	26.0	379	22	AAB93440	Human protein sequ
13	397	18.7	893	23	ABB97964	Human protein sequ
14	389.5	18.4	861	18	AAW17658	Mouse CD100 antige
15	389.5	18.4	861	19	AAW58540	Human semaphorin.
16	389.5	18.4	861	22	AAB81035	Murine CD100 amino
17	389.5	18.4	861	22	AAB51251	Mouse CD100 protei
18	385.5	18.2	832	22	AAE03818	Human gene 1 encod
19	385.5	18.2	832	23	ABG64522	Human albumin fusi
20	385.5	18.2	837	21	AAY99410	Human PRO1480 (UNQ
21	385.5	18.2	837	22	AAU29250	Human PRO polypept
22	385.5	18.2	837	22	AAB66159	Protein of the inv
23	376.5	17.8	791	23	AAU77413	Human NOV7 protein
24	368	17.4	749	22	AAG62727	Amino acid sequenc
25	366	17.3	796	19	AAY21264	Human semaphorin I
26	363	17.1	771	16	AAR71380	Human semaphorin I
27	363	17.1	771	22	AAG62726	Amino acid sequenc
28	361.5	17.1	862	18	AAW17657	Human CD100 antige
29	361.5	17.1	862	22	AAB81036	Human CD100 amino
30	361.5	17.1	862	22	AAB51252	Human CD100 protei
31	346	16.3	660	20	AAY13463	Ectromelia A39R se
32	346	16.3	660	21	AAB28523	Ectromelia A39R se
33	346	16.3	660	22	AAB70132	Ectromelia A39R se
34	346	16.3	660	22	AAB31694	Amino acid sequenc
35	342.5	16.2	775	19	AAW63748	Human semaphorin.
36	341.5	16.1	441	16	AAR71381	Vaccinia virus sem
37	341	16.1	886	23	ABB97963	Human protein sequ
38	339.5	16.0	590	22	AAB48373	Human SEC6 protein
39	339.5	16.0	596	22	AAB48374	Human SEC7 protein
40	339.5	16.0	624	22	AAB48378	Human SEC11 protei
41	337.5	15.9	833	22	AAE03640	Human extracellula
42	334.5	15.8	833	23	AAE18214	Human MOL5b protei
43	334.5	15.8	833	23	AAE18215	Human MOL5c protei
44	333.5	15.7	833	23	AAE18213	Human MOL5a protei
45	332.5	15.7	775	20	AAY43090	Mouse semaphorin H

ALIGNMENTS

RESULT 1
AAW92805
ID AAW92805 standard; Protein; 394 AA.
XX
AC AAW92805;
XX
DT 07-MAY-1999 (first entry)
XX
DE EP-892047 Seq ID 4.
XX
KW Semaphorin L; human; immunosuppressant; anti-inflammatory; gene therapy;
KW organ transplantation; inflammation therapy; immunotherapy; agonist;
KW immunomodulatory; antagonist.
XX
OS Homo sapiens.
XX
PN EP892047-A2.
XX
PD 20-JAN-1999.
XX
PF 06-JUL-1998; 98EP-0112470.
XX
PR 11-FEB-1998; 98DE-1005371.
PR 09-JUL-1997; 97DE-1029211.
XX
PA (HMRI) HOECHST MARION ROUSSEL DEUT GMBH.
XX
PI Ensser A, Fleckenstein B;
XX
DR WPI; 1999-083564/08.
XX
PT New semaphorin L proteins - used as immunosuppressants and
PT antiinflammatory agents in organ transplants, inflammation therapy,

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PT   immunotherapy and gene therapy
XX
PS   Claim 4; Page 64-65; 135pp; German.
XX
CC   This invention describes a novel human semaphorin L protein. This protein
CC   or its encoding DNA are useful as immunosuppressants and/or
CC   anti-inflammatory agents in organ transplantation, inflammation therapy,
CC   immunotherapy and gene therapy. The DNA can be used to produce knock-out
CC   or knock-in animals for research purposes. The proteins or DNA can be
CC   used to search for the corresponding receptors or to screen for
CC   immunomodulatory agonists or antagonists.
XX
SQ   Sequence   394 AA;

  Query Match            100.0%;  Score 2120;  DB 20;  Length 394;
  Best Local Similarity  100.0%;  Pred. No. 5.7e-204;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWKG 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWKG 60

Qy      61 QDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQDK 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 QDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQDK 120

Qy     121 QDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSLVLF 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 QDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSLVLF 180

Qy     181 EGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDKIYY 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 EGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDKIYY 240

Qy     241 FFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNR 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 FFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNR 300

Qy     301 LQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLSNPR 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 LQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLSNPR 360

Qy     361 PGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
           |||||||||||||||||||||||||||||||||||
Db     361 PGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394


RESULT 2
AAY82434
ID   AAY82434 standard; Protein; 664 AA.
XX
AC   AAY82434;
XX
DT   27-JUN-2000  (first entry)
XX
DE   Mouse CDw108 protein SEQ ID NO:8.
XX
KW   Mouse; CDw108; detection; diagnosis; HIV; infection; anti-HIV.
XX
OS   Mus musculus.
XX
PN   WO200012700-A1.
XX
PD   09-MAR-2000.
XX
PF   25-AUG-1999;   99WO-JP04571.
XX
PR   26-AUG-1998;   98JP-0239687.
XX
PA   (SHIO ) SHIONOGI & CO LTD.
XX
PI   Yamada A,  Kubo K,  Itoh K;
XX
DR   WPI; 2000-246752/21.
DR   N-PSDB; AAA08189.
XX
PT   New CDw108 protein, useful in diagnosis of and as remedy for
PT   CDw108-associated diseases e.g. HIV-1 infection, and in study of
PT   biological functions and molecular specificity of CDw108 -
XX
PS   Example 8; Page 64-69; 73pp; Japanese.
XX
CC   The present invention describes human CDw108. The CDw109 nucleotide
CC   and protein sequences can be used in the diagnosis and treatment of
CC   CDw108-associated diseases e.g. HIV-1 infection, and in study of
CC   biological functions and molecular specificity of CDw108. The present
CC   sequence represents mouse CDw108 given in an example from the present
CC   invention.
XX
SQ   Sequence   664 AA;

  Query Match            99.8%;  Score 2115;  DB 21;  Length 664;
  Best Local Similarity  99.7%;  Pred. No. 4.2e-203;
  Matches  393;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWKG 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWKG 60

Qy      61 QDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQDK 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 QDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQDK 120

Qy     121 QDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSLVLF 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 QDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSLVLF 180

Qy     181 EGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDKIYY 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 EGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDKIYY 240

Qy     241 FFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNR 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 FFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNR 300

Qy     301 LQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLSNPR 360
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Db     301 LQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLPNPR 360

Qy     361 PGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
           |||||||||||||||||||||||||||||||||||
Db     361 PGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394


RESULT 3
AAY39445
ID   AAY39445 standard; Protein; 666 AA.
XX
AC   AAY39445;
XX
DT   01-DEC-1999  (first entry)
XX
DE   Human semaphorin ZSMF-7.
XX
KW   Semaphorin; transmembrane; secreted; neuroregeneration;
KW   immunosuppression; diabetes; multiple sclerosis; rheumatoid arthritis;
KW   proliferation; differentiation.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Domain          561..620
FT                   /note= "Ig-like domain"
XX
PN   WO9945114-A2.
XX
```

PD 10-SEP-1999.
XX
PF 03-MAR-1999; 99WO-US04758.
XX
PR 03-MAR-1998; 98US-0076611.
XX
PA (ZYMO) ZYMOGENETICS INC.
XX
PI Holloway JL, Lofton-Day CE;
XX
DR WPI; 1999-540845/45.
DR N-PSDB; AAZ20985, AAZ20986.
XX
PT New isolated human semaphorin ZSMF-7 polypeptides, used to develop
PT products for treating e.g. immunodeficiencies, autoimmune diseases,
PT inflammation, graft rejection and infective diseases -
XX
PS Claim 6; Page 101-102; 124pp; English.
XX
CC This sequence represents human ZSMF-7 semaphorin. The cDNA was
CC isolated and amplified from a human testis cDNA library using PCR
CC primers ZC16189 (AAZ20989) and ZC16188 (AAZ20990) which had been
CC designed based upon an incomplete clone obtained from a human placenta
CC library. Semaphorins have a variety of roles. They influence the
CC direction and degree of axon and dendrite growth in nervous tissue, and
CC may thus be useful as therapeutic agents for various neurodegenerative
CC conditions. They are active in defining and directing development of
CC various tissues and organs including those associated with muscle,
CC fibroblasts, reproductive, endocrine and lymphatic tissues. ZSMF-7 plays
CC a role as a mediator of immunosuppression, in particularly the activation
CC and regulation of T lymphocytes. ZSMF-7 polypeptides would be useful
CC additions to therapies for treating immunodeficiencies. ZSMF-7 is
CC expressed in activated lymphocytes (MRL cells) and not in resting
CC lymphocyte cells (CD4+ and CD8+) suggesting that it would be a useful
CC tool for diagnosis and treatment of conditions where selective
CC elimination of inappropriately activated T cells would be beneficial,
CC such as in autoimmune diseases, in particular insulin dependent
CC diabetes mellitus, rheumatoid arthritis and multiple sclerosis. ZSMF-7
CC polypeptides can be used in vivo as anti-inflammatory agents,
CC for inhibition of antigen in humoral and cellular immunity and for
CC immunosuppression in graft and organ transplants.
XX
SQ Sequence 666 AA;

Query Match 89.5%; Score 1897; DB 20; Length 666;
Best Local Similarity 90.2%; Pred. No. 3.3e-181;
Matches 358; Conservative 8; Mismatches 27; Indels 4; Gaps 2;

```
Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59
Db       1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60

Qy      60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117
Db      61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy     118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177
Db     121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy     178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
Db     180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy     238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297
Db     240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy     298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357
Db     300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy     358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
Db     360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396
```

RESULT 4
AAY28552
ID AAY28552 standard; Peptide; 666 AA.
XX
AC AAY28552;
XX
DT 19-OCT-1999 (first entry)
XX
DE SBSEMVL polypeptide #1.
XX
KW SBSEMVL; semaphorin; axon outgrowth; multidrug resistance; spinal injury;
KW neurodegeneration; viral infection; cancer.
XX
OS Homo sapiens.
XX
PN WO9938885-A2.
XX
PD 05-AUG-1999.
XX
PF 25-JAN-1999; 99WO-EP00422.
XX
PR 30-JAN-1998; 98EP-0300694.
XX
PA (SMIK) SMITHKLINE BEECHAM PLC.
XX
PI Hayes PD, Michalovich D;
XX
DR WPI; 1999-479166/40.
DR N-PSDB; AAZ00102.
XX
PT Novel SBSEMVL molecules used for treating neurodegeneration, spinal
PT injury, neuropathies, and neuromuscular, psychiatric, and
PT inflammatory disorders, developmental malfunctions, cancer, immune
PT system disorders and viral infections
XX
PS Claim 4; Page 29-31; 34pp; English.
XX
CC This sequence is human SBSEMVL polypeptide #1. SBSEMVL polypeptides are
CC believed to be members of the Semaphorin family of polypeptides.
CC Semaphorin polypeptides act as recognition molecules and are involved in
CC axon outgrowth control. They are also likely to have a role in immune
CC function and multidrug resistance. SBSEMVL polypeptides may be used for
CC detecting diseases associated with inappropriate SBSEMVL activity or
CC levels. SBSEMVL polypeptides and polynucleotides, agonists, antagonists
CC and antibodies are used to treat neurodegeneration, spinal injury,
CC neuropathies, and neuromuscular, psychiatric, and inflammatory disorders,
CC developmental malfunctions, cancer, disorders of the immune system and
CC viral infection. The polynucleotide is also useful as a source of primers
CC and probes, and also for detecting the above diseases.
XX
SQ Sequence 666 AA;

Query Match 89.5%; Score 1897; DB 20; Length 666;
Best Local Similarity 90.2%; Pred. No. 3.3e-181;
Matches 358; Conservative 8; Mismatches 27; Indels 4; Gaps 2;

```
Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59
Db       1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60

Qy      60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117
Db      61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy     118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177
Db     121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy     178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
```

```
Db    180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy    238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297

Db    240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy    298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357

Db    300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy    358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394

Db    360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396


RESULT 5
AAW92804
ID   AAW92804 standard; Protein; 666 AA.
XX
AC   AAW92804;
XX
DT   07-MAY-1999  (first entry)
XX
DE   EP-892047 Seq ID 3.
XX
KW   Semaphorin L; human; immunosuppressant; anti-inflammatory; gene therapy;
KW   organ transplantation; inflammation therapy; immunotherapy; agonist;
KW   immunomodulatory; antagonist.
XX
OS   Homo sapiens.
XX
PN   EP892047-A2.
XX
PD   20-JAN-1999.
XX
PF   06-JUL-1998;   98EP-0112470.
XX
PR   11-FEB-1998;   98DE-1005371.
PR   09-JUL-1997;   97DE-1029211.
XX
PA   (HMRI ) HOECHST MARION ROUSSEL DEUT GMBH.
XX
PI   Ensser A,  Fleckenstein B;
XX
DR   WPI; 1999-083564/08.
XX
PT   New semaphorin L proteins - used as immunosuppressants and
PT   antiinflammatory agents in organ transplants, inflammation therapy,
PT   immunotherapy and gene therapy
XX
PS   Claim 2; Page 61-64; 135pp; German.
XX
CC   This invention describes a novel human semaphorin L protein. This protein
CC   or its encoding DNA are useful as immunosuppressants and/or
CC   anti-inflammatory agents in organ transplantation, inflammation therapy,
CC   immunotherapy and gene therapy. The DNA can be used to produce knock-out
CC   or knock-in animals for research purposes. The proteins or DNA can be
CC   used to search for the corresponding receptors or to screen for
CC   immunomodulatory agonists or antagonists.
XX
SQ   Sequence   666 AA;

  Query Match            89.5%;  Score 1897;  DB 20;  Length 666;
  Best Local Similarity  90.2%;  Pred. No. 3.3e-181;
  Matches  358;  Conservative    8;  Mismatches   27;  Indels    4;  Gaps    2;

Qy      1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59

Db      1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60

Qy     60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117

Db     61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy    118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177

Db    121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy    178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237

Db    180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy    238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297

Db    240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy    298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357

Db    300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy    358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394

Db    360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396


RESULT 6
AAY82433
ID   AAY82433 standard; Protein; 666 AA.
XX
AC   AAY82433;
XX
DT   27-JUN-2000  (first entry)
XX
DE   Human CDw108 protein SEQ ID NO:1.
XX
KW   Human; CDw108; detection; diagnosis; HIV; infection; anti-HIV.
XX
OS   Homo sapiens.
XX
PN   WO200012700-A1.
XX
PD   09-MAR-2000.
XX
PF   25-AUG-1999;   99WO-JP04571.
XX
PR   26-AUG-1998;   98JP-0239687.
XX
PA   (SHIO ) SHIONOGI & CO LTD.
XX
PI   Yamada A,  Kubo K,  Itoh K;
XX
DR   WPI; 2000-246752/21.
DR   N-PSDB; AAA08183.
XX
PT   New CDw108 protein, useful in diagnosis of and as remedy for
PT   CDw108-associated diseases e.g. HIV-1 infection, and in study of
PT   biological functions and molecular specificity of CDw108  -
XX
PS   Claim 1; Fig 1; 73pp; Japanese.
XX
CC   The present sequence represents human CDw108. The CDw109 nucleotide
CC   and protein sequences can be used in the diagnosis and treatment of
CC   CDw108-associated diseases e.g. HIV-1 infection, and in study of
CC   biological functions and molecular specificity of CDw108.
XX
SQ   Sequence   666 AA;

  Query Match            89.5%;  Score 1897;  DB 21;  Length 666;
  Best Local Similarity  90.2%;  Pred. No. 3.3e-181;
  Matches  358;  Conservative    8;  Mismatches   27;  Indels    4;  Gaps    2;

Qy      1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59

Db      1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60
```

```
Qy      60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117
           ||| ||| | |||||||||||| |||||||||| |:||||||||||||||||||||
Db      61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy     118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177
           ||:|| |||||||||  ||| |||||| |||||||| :|| ||||:||||||||||||
Db     121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy     178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy     238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||:|
Db     240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy     298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357
           ||||||||||||||||||||||||||||||||||||||||||||:||||||||||  |
Db     300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy     358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
           ||||| ||| :|||||||||||| ||||||||||||
Db     360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396
```

RESULT 7
AAY55009
ID AAY55009 standard; Protein; 666 AA.
XX
AC AAY55009;
XX
DT 18-FEB-2000 (first entry)
XX
DE Human semaphorin, DCSema, protein sequence.
XX
KW Semaphorin; DCSema; human; inflammatory disease; VESPR; interleukin-12;
KW IL-12; immune response; aggressive micrometastasising tumour; therapy;
KW immune suppression; autoimmune disorder; semaphorin receptor;
KW immune regulation; viral infection.
XX
OS Homo sapiens.
XX
PN WO9958676-A2.
XX
PD 18-NOV-1999.
XX
PF 05-MAY-1999; 99WO-US09831.
XX
PR 14-MAY-1998; 98US-0085497.
XX
PA (IMMV) IMMUNEX CORP.
XX
PI Spriggs MK;
XX
DR WPI; 2000-053100/04.
DR N-PSDB; AAZ40163.
XX
PT Novel neurological regulator polypeptide for treating inflammatory
PT diseases, autoimmune disorders, etc., -
XX
PS Claim 1; Page 34-36; 41pp; English.
XX
CC This sequence is the human semaphorin protein, designated DCSema, of
CC the invention. DCSema is used for treating inflammatory diseases. DCSema
CC ligands bind with VESPR to enhance or promote interleukin-12 (IL-12)
CC production which induces an immune response against aggressive
CC micrometastasising tumours. They are associated with immune suppression
CC of mature dendritic cells and therefore can be used for treating
CC autoimmune disorders. They can be employed to measure biological activity
CC of any semaphorin receptor in terms of its binding affinity for
CC semaphorin ligand and also for detecting semaphorin receptor by in vitro
CC assays. DCSema polypeptides are used as reagents in quality assurance
CC studies (to monitor shelf life and stability of semaphorin receptor under
CC different conditions). They are also used as a research tool for studying
CC the role of this ligand and its receptor in immune regulation and are
CC also used as carriers for delivering diagnostic or therapeutic agents to
CC cells expressing semaphorin receptor. They are shown to play a role as
CC immune regulators in viral infection.
XX
SQ Sequence 666 AA;

Query Match 89.5%; Score 1897; DB 21; Length 666;
Best Local Similarity 90.2%; Pred. No. 3.3e-181;
Matches 358; Conservative 8; Mismatches 27; Indels 4; Gaps 2;

```
Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59
           |||||||||||||||||   ||| ||||||||||: | |||||||| |||||| ||||
Db       1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60

Qy      60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117
             ||| ||| | |||||||||||| |||||||||| |:||||||||||||||||||||
Db      61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy     118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177
           ||:|| |||||||||  ||| |||||| |||||||| :|| ||||:||||||||||||
Db     121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy     178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy     238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||:|
Db     240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy     298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357
           ||||||||||||||||||||||||||||||||||||||||||:||||||||||  |
Db     300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy     358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
           ||||| ||| :|||||||||||| ||||||||||||
Db     360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396
```

RESULT 8
AAE02650
ID AAE02650 standard; Protein; 666 AA.
XX
AC AAE02650;
XX
DT 10-AUG-2001 (first entry)
XX
DE Human Sema7A protein.
XX
KW Human; Sema7A; semaphorin family; chromosome 15q22.3-q23; stroke;
KW autoimmune disorder; COPD; chronic obstructive pulmonary disease;
KW psoriasis; tissue repair; wound healing; irritable bowel syndrome;
KW inflammation; cancer; atherosclerosis; dendritic cell.
XX
OS Homo sapiens.
XX
PN WO200139793-A2.
XX
PD 07-JUN-2001.
XX
PF 28-NOV-2000; 2000WO-EP11873.
XX
PR 30-NOV-1999; 99GB-0028329.
PR 14-SEP-2000; 2000GB-0022572.
XX
PA (SMIK) SMITHKLINE BEECHAM PLC.
XX
PI Holmes SD, Lewis CJ;
XX
DR WPI; 2001-374667/39.
DR N-PSDB; AAD06126.

```
XX
PT   Use of Sema7A polypeptides, polynucleotides, or activators or
PT   inhibitors, for manufacturing a medicament for treating autoimmune
PT   disorders, chronic obstructive pulmonary disease, inflammation,
PT   psoriasis and stroke -
XX
PS   Claim 5; Page 28-29; 36pp; English.
XX
CC   The present sequence is human Sema7A protein which
CC   belongs to semaphorin family. The Sema7A gene is located on human
CC   chromosome 15q22.3-q23. The Sema7A polypeptide and polynucleotide
CC   are useful for the manufacture of a medicament for treating autoimmune
CC   disorders, chronic obstructive pulmonary disease (COPD), inflammation,
CC   psoriasis, tissue repair, wounds, to enhance wound healing, irritable
CC   bowel syndrome, stroke, atherosclerosis, cancer or diseases where it is
CC   necessary to promote dendritic cell formation. The polypeptide is also
CC   useful in the diagnostic assays for detecting diseases associated with
CC   inappropriate levels or activities of Sema7A.
XX
SQ   Sequence   666 AA;

  Query Match             89.5%;  Score 1897;  DB 22;  Length 666;
  Best Local Similarity   90.2%;  Pred. No. 3.3e-181;
  Matches  358;  Conservative    8;  Mismatches   27;  Indels    4;  Gaps    2;

Qy       1 MTPPPPGRAAPSAPRARVLSLPARFGLPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK- 59
Db       1 MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLRSGPRIFAVWKG 60

Qy      60 --GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSC 117
Db      61 HVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSC 120

Qy     118 QDKQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSL 177
Db     121 LDKRDCENYITLLERRSEGLLACGTNARHPSCWNLVNGTVV-PLGEMRGYAPFSPDENSL 179

Qy     178 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
Db     180 VLFEGDEVYSTIRKQEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 239

Qy     238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRN 297
Db     240 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNKN 299

Qy     298 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLS 357
Db     300 FNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFRTSSLKGYHSSLP 359

Qy     358 NPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
Db     360 NPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 396


RESULT 9
AAY56854
ID   AAY56854 standard; Protein; 634 AA.
XX
AC   AAY56854;
XX
DT   10-APR-2000  (first entry)
XX
DE   Human semaphorin K1 polypeptide.
XX
KW   Semaphorin K1; cellular physiology; neurite outgrowth; neuron; human;
KW   immunogen; pharmaceutical.
XX
OS   Homo sapiens.
XX
PN   JP11341988-A.
XX
PD   14-DEC-1999.
XX
PF   11-MAR-1999;   99JP-0065672.
XX
PR   11-MAR-1998;   98US-0041236.
XX
PA   (EXEL-) EXELIXIS PHARM INC.
XX
DR   WPI; 2000-109378/10.
DR   N-PSDB; AAZ46841.
XX
PT   New semaphorin polypeptides, useful cell physiology modulators and
PT   immunogens -
XX
PS   Claim 1; Page 12-15; 57pp; Japanese.
XX
CC   The invention provided isolated human semaphorin K1 polypeptides. The
CC   polypeptides, or nucleic acids encoding them, can be used to modulate
CC   cellular physiology by modulating semaphorin K1 activity, e.g. semaphorin
CC   K1 polypeptide fragments or antisense nucleic acids can be used to
CC   enhance neurite outgrowth from damaged neurons. The polypeptides can also
CC   be used as immunogens, reagents for isolating other semaphorins, or as
CC   reagents for screening chemical libraries for lead pharmaceutical agents.
CC   The nucleic acids can also be used as probes and primers for diagnostic
CC   purposes. The present sequence represents the human semaphorin K1
CC   polypeptide.
XX
SQ   Sequence   634 AA;

  Query Match             82.8%;  Score 1755;  DB 21;  Length 634;
  Best Local Similarity   90.4%;  Pred. No. 5.7e-167;
  Matches  330;  Conservative    8;  Mismatches   23;  Indels    4;  Gaps    2;

Qy      33 LLLVFWVAAASAQGHSRSGPRISAVWK---GQDHVDFSQPEPHTVLFHEPGSFSVWVGGR 89
Db       1 LLLLLWAAAASAQGHLRSGPRIFAVWKGHVGQDRVDFGQTEPHTVLFHEPGSSSVWVGGR 60

Qy      90 GKVYHFNFPEGKNASVRTVNIGSTKGSCQDKQDCGNYITLLERRGNGLLVCGTNARKPSC 149
Db      61 GKVYLFDFPEGKNASVRTVNIGSTKGSCLDKRDCENYITLLERRSEGLLACGTNARHPSC 120

Qy     150 WNLVNDSVVMSLGEMKGYAPFSPDENSLVLFEGDEVYSTIRKQEYNGKIPRFRRIRGESE 209
Db     121 WNLVNGTVV-PLGEMRGYAPFSPDENSLVLFEGDEVYSTIRKQEYNGKIPRFRRIRGESE 179

Qy     210 LYTSDTVMQNPQFIKATIVHQDQAYDDKIYYFFREDNPDKNPEAPLNVSRVAQLCRGDQG 269
Db     180 LYTSDTVMQNPQFIKATIVHQDQAYDDKIYYFFREDNPDKNPEAPLNVSRVAQLCRGDQG 239

Qy     270 GESSLSVSKWNTFLKAMLVCSDAATNRNFNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNY 329
Db     240 GESSLSVSKWNTFLKAMLVCSDAATNKNFNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNY 299

Qy     330 SAVCVYSLGDIDRVFRTSSLKGYHMGLSNPRPGMCLPKKQPIPTETFQVADSHPEVAQRV 389
Db     300 SAVCVYSLGDIDKVFRTSSLKGYHSSLPNPRPGKCLPDQQPIPTETFQVADRHPEVAQRV 359

Qy     390 EPMGP 394
Db     360 EPMGP 364


RESULT 10
AAY28553
ID   AAY28553 standard; Peptide; 215 AA.
XX
AC   AAY28553;
XX
DT   19-OCT-1999  (first entry)
XX
DE   SBSEMVL polypeptide #2.
XX
KW   SBSEMVL; semaphorin; axon outgrowth; multidrug resistance; spinal injury;
KW   neurodegeneration; viral infection; cancer.
XX
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```
OS   Homo sapiens.
XX
PN   WO9938885-A2.
XX
PD   05-AUG-1999.
XX
PF   25-JAN-1999;   99WO-EP00422.
XX
PR   30-JAN-1998;   98EP-0300694.
XX
PA   (SMIK ) SMITHKLINE BEECHAM PLC.
XX
PI   Hayes PD,  Michalovich D;
XX
DR   WPI; 1999-479166/40.
DR   N-PSDB; AAZ00103.
XX
PT   Novel SBSEMVL molecules used for treating neurodegeneration, spinal
PT   injury, neuropathies, and neuromuscular, psychiatric, and
PT   inflammatory disorders, developmental malfunctions, cancer, immune
PT   system disorders and viral infections
XX
PS   Claim 17; Page 32; 34pp; English.
XX
CC   This sequence is human SBSEMVL polypeptide #2. SBSEMVL polypeptides are
CC   believed to be members of the Semaphorin family of polypeptides.
CC   Semaphorin polypeptides act as recognition molecules and are involved in
CC   axon outgrowth control. They are also likely to have a role in immune
CC   function and multidrug resistance. SBSEMVL polypeptides may be used for
CC   detecting diseases associated with inappropriate SBSEMVL activity or
CC   levels. SBSEMVL polypeptides and polynucleotides, agonists, antagonists
CC   and antibodies are used to treat neurodegeneration, spinal injury,
CC   neuropathies, and neuromuscular, psychiatric, and inflammatory disorders,
CC   developmental malfunctions, cancer, disorders of the immune system and
CC   viral infection. The polynucleotide is also useful as a source of primers
CC   and probes, and also for detecting the above diseases.
XX
SQ   Sequence   215 AA;

  Query Match             44.7%;  Score 948.5;  DB 20;  Length 215;
  Best Local Similarity   85.2%;  Pred. No. 1.1e-86;
  Matches  184;  Conservative    6;  Mismatches   23;  Indels    3;  Gaps    3;

Qy      60 GQDHVDFSQPEPHTVLFHEPGSFSVWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQD 119
           ||| ||| | |||||||||||| |||||||||| |:|||||||||||||||||||||| |
Db       1 GQDRVDFGQTEPHTVLFHEPGSSSVWVGGRGKVYLFDFPEGKNASVRTVNIGSTKGSCLD 60

Qy     120 KQDCGNYITLLERRGNGLLVCGTNARKPSCWNLVNDSVVMSLGEMKGYAPFSPDEN-SLV 178
           |:|| |||||||||  ||| |||||| |||||||| ::   |||  ||||||||||
Db      61 KRDCENYITLLERRSEGLLACGTNARHPSCWNLVN-ALWCHLGESGGYAPFSPDENVPWF 119

Qy     179 LFEGDEVYSTIRK-QEYNGKIPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 237
           |||||||||||| : || : ||||||||||||||||||||||||||||||||||||||||
Db     120 CFEGDEVYSTIRKARNYNWEDPRFRRIRGESELYTSDTVMQNPQFIKATIVHQDQAYDDK 179

Qy     238 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESS 273
           ||||||||||||||||||||||||||||||||||||
Db     180 IYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESS 215


RESULT 11
AAY56855
ID   AAY56855 standard; Protein; 606 AA.
XX
AC   AAY56855;
XX
DT   10-APR-2000  (first entry)
XX
DE   Semaphorin K1 polypeptide related sequence.
XX
KW   Semaphorin K1; cellular physiology; neurite outgrowth; neuron; human;
KW   immunogen; pharmaceutical.
XX
OS   Unidentified.
XX
PN   JP11341988-A.
XX
PD   14-DEC-1999.
XX
PF   11-MAR-1999;   99JP-0065672.
XX
PR   11-MAR-1998;   98US-0041236.
XX
PA   (EXEL-) EXELIXIS PHARM INC.
XX
DR   WPI; 2000-109378/10.
DR   N-PSDB; AAZ46842.
XX
PT   New semaphorin polypeptides, useful cell physiology modulators and
PT   immunogens -
XX
PS   Disclosure; Page 17-20; 57pp; Japanese.
XX
CC   The invention provided isolated human semaphorin K1 polypeptides. The
CC   polypeptides, or nucleic acids encoding them, can be used to modulate
CC   cellular physiology by modulating semaphorin K1 activity, e.g. semaphorin
CC   K1 polypeptide fragments or antisense nucleic acids can be used to
CC   enhance neurite outgrowth from damaged neurons. The polypeptides can also
CC   be used as immunogens, reagents for isolating other semaphorins, or as
CC   reagents for screening chemical libraries for lead pharmaceutical agents.
CC   The nucleic acids can also be used as probes and primers for diagnostic
CC   purposes.
XX
SQ   Sequence   606 AA;

  Query Match             42.5%;  Score 902;  DB 21;  Length 606;
  Best Local Similarity   48.9%;  Pred. No. 2.7e-81;
  Matches  179;  Conservative   54;  Mismatches  127;  Indels    6;  Gaps    4;

Qy      27 LPLRLRLLLVFWVAAASAQGHSRSGPRISAVWK---GQDHVDFSQPEPHTVLFHEPGSFS 83
           | : :|||::   |  :|:      ||:        || |  |  ||||||||  |
Db       4 LCVSIRLLMIL-SAITAAKSRFIDKPRLIVNLTDGFGQ-HRFFGPQEPHTVLFHSLNSSD 61

Qy      84 VWVGGRGKVYHFNFPEGKNASVRTVNIGSTKGSCQDKQDCGNYITLLERRGNGLLVCGTN 143
           |:|||   :| |:|    |||   :|| ||  : :    | |:|||| : :||| ||||
Db      62 VYVGGNNTIYLFDFAHSSNASTALINITSTHNTHRLSSTCENFITLLHNQTDGLLACGTN 121

Qy     144 ARKPSCWNLVNDSVVMSLGEMKGYAPFSPDENSLVLFEGDEVYSTIRKQEYNGKIPRFRR 203
           ::||||| |:|:     ||   | |||||   :||||: :: ||||   :       :|||
Db     122 SQKPSCW-LINNLTTQFLGPKLGLAPFSPSSGNLVLFDQNDTYSTINLYKSLSGSHKFRR 180

Qy     204 IRGESELYTSDTVMQNPQFIKATIVHQDQAYDDKIYYFFREDNPDKNPEAPLNVSRVAQL 263
           | |: |||||||  |  |||::|| ||::::|||||:||:|::     : |  | || |:
Db     181 IAGQVELYTSDTAMHRPQFVQATAVHKNESYDDKIYFFFQENSHSDFKQFPHTVPRVGQV 240

Qy     264 CRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNRLQDVFLLPDPSGQWRDTRVYGVF 323
           |  |||||||||| || ||||| | | |  | | :| |||:|:   |   | :| :||:|
Db     241 CSSDQGGESSLSVYKWTTFLKARLACVDYDTGRIYNELQDIFIWQAPENSWEETLIYGLF 300

Qy     324 SNPWNYSAVCVYSLGDIDRVFRTSSLKGYHMGLSNPRPGMCLPKKQPIPTETFQVADSHP 383
           :|||:|||||::: ||| ||:|| || ||  |  |||| |:   | :|||||||| :|
Db     301 LSPWNFSAVCVFTVKDIDHVFKTSKLKNYHHKLPTPRPGQCMKNHQHVPTETFQVADRYP 360

Qy     384 EVAQRV 389
           |||  |
Db     361 EVADPV 366


RESULT 12
AAB93440
ID   AAB93440 standard; Protein; 379 AA.
XX
AC   AAB93440;
XX
DT   26-JUN-2001  (first entry)
XX
```

```
DE   Human protein sequence SEQ ID NO:12678.
XX
KW   Human; primer; detection; diagnosis; antisense therapy; gene therapy.
XX
OS   Homo sapiens.
XX
PN   EP1074617-A2.
XX
PD   07-FEB-2001.
XX
PF   28-JUL-2000; 2000EP-0116126.
XX
PR   29-JUL-1999;   99JP-0248036.
PR   27-AUG-1999;   99JP-0300253.
PR   11-JAN-2000; 2000JP-0118776.
PR   02-MAY-2000; 2000JP-0183767.
PR   09-JUN-2000; 2000JP-0241899.
XX
PA   (HELI-) HELIX RES INST.
XX
PI   Ota T,  Isogai T,  Nishikawa T,  Hayashi K,  Saito K,  Yamamoto J;
PI   Ishii S,  Sugiyama T,  Wakamatsu A,  Nagai K,  Otsuki T;
XX
DR   WPI; 2001-318749/34.
XX
PT   Primer sets for synthesizing polynucleotides, particularly the 5602
PT   full-length cDNAs defined in the specification, and for the detection
PT   and/or diagnosis of the abnormality of the proteins encoded by the
PT   full-length cDNAs -
XX
PS   Claim 8; SEQ ID 12678; 2537pp + CD ROM; English.
XX
CC   The present invention describes primer sets for synthesising 5602
CC   full-length cDNAs defined in the specification. Where a primer set
CC   comprises: (a) an oligo-dT primer and an oligonucleotide complementary
CC   to the complementary strand of a polynucleotide which comprises one of
CC   the 5602 nucleotide sequences defined in the specification, where the
CC   oligonucleotide comprises at least 15 nucleotides; or (b) a combination
CC   of an oligonucleotide comprising a sequence complementary to the
CC   complementary strand of a polynucleotide which comprises a 5'-end
CC   sequence and an oligonucleotide comprising a sequence complementary to a
CC   polynucleotide which comprises a 3'-end sequence, where the
CC   oligonucleotide comprises at least 15 nucleotides and the combination of
CC   the 5'-end sequence/3'-end sequence is selected from those defined in
CC   the specification. The primer sets can be used in antisense therapy and
CC   in gene therapy. The primers are useful for synthesising polynucleotides,
CC   particularly full-length cDNAs. The primers are also useful for the
CC   detection and/or diagnosis of the abnormality of the proteins encoded by
CC   the full-length cDNAs. The primers allow obtaining of the full-length
CC   cDNAs easily without any specialised methods. AAH03166 to AAH13628 and
CC   AAH13633 to AAH18742 represent human cDNA sequences; AAB92446 to
CC   AAB95893 represent human amino acid sequences; and AAH13629 to AAH13632
CC   represent oligonucleotides, all of which are used in the exemplification
CC   of the present invention.
XX
SQ   Sequence   379 AA;

  Query Match             26.0%;  Score 552;  DB 22;  Length 379;
  Best Local Similarity   91.7%;  Pred. No. 1.9e-46;
  Matches  100;  Conservative    3;  Mismatches    6;  Indels    0;  Gaps    0;

Qy     286 MLVCSDAATNRNFNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDRVFR 345
           ||||||||||:|||||||||||||||||||||||||||||||||||||||||||||:|||
Db       1 MLVCSDAATNKNFNRLQDVFLLPDPSGQWRDTRVYGVFSNPWNYSAVCVYSLGDIDKVFR 60

Qy     346 TSSLKGYHMGLSNPRPGMCLPKKQPIPTETFQVADSHPEVAQRVEPMGP 394
           |||||||| | ||||| ||| :||||||||||| ||||||||||||
Db      61 TSSLKGYHSSLPNPRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGP 109


RESULT 13
ABB97964
ID   ABB97964 standard; Protein; 893 AA.
XX
AC   ABB97964;
XX
DT   06-SEP-2002  (first entry)
XX
DE   Human protein sequence #31.
XX
KW   Human; brain; tonsil; hippocampus; foetal brain; diagnosis.
XX
OS   Homo sapiens.
XX
PN   WO200252005-A1.
XX
PD   04-JUL-2002.
XX
PF   20-DEC-2001; 2001WO-JP11217.
XX
PR   22-DEC-2000; 2000JP-0389742.
XX
PA   (KAZU-) KAZUSA DNA RES INST FOUND.
PA   (CELE-) CELESTAR LEXICO-SCI LTD.
XX
PI   Ohara O,  Nagase T,  Nakajima D;
XX
DR   WPI; 2002-500762/53.
DR   N-PSDB; ABN83984.
XX
PT   Genes and their expression products cloned from human cDNA libraries
PT   for treatment and diagnosis of diseases associated with their
PT   expression  -
XX
PS   Claim 1(a); Page 126-132; 238pp; Japanese.
XX
CC   The invention relates to DNA encoding polypeptides directly cloned from
CC   cDNA libraries originating in adult whole brain, human tonsil, human
CC   adult hippocampus and human foetal whole brain. Polypeptides and
CC   polynucleotides of the invention may be used in the investigation of
CC   differential expression of the DNA sequences in normal subjects and
CC   disease patients. They may also be used in the production of antibodies,
CC   oligonucleotide probes and DNA chips for diagnosis and identification
CC   of drugs for treatment of diseases with which the DNA sequences are
CC   associated. The sequences given in records ABB97934-ABB97964 represent
CC   human proteins of the invention.
XX
SQ   Sequence   893 AA;

  Query Match             18.7%;  Score 397;  DB 23;  Length 893;
  Best Local Similarity   30.1%;  Pred. No. 2.7e-30;
  Matches  129;  Conservative   54;  Mismatches  167;  Indels   78;  Gaps   16;

Qy       3 PPPPGRAAPSAPRARVL---------------SLPARFGLPLRLRLLLVF------WVAA 41
             || |      ||  |:|               :|| |  | | | |||:      | :
Db      42 PPEPEPRDTVAPALRMLRTAMGLRSWLAAPWGALPPRPPLLLLLLLLLLLQPPPPTWALS 101

Qy      42 ASAQGHSRSGPRISAVWKGQDHVDFSQPEP-----HTVLFHEPGSFSVWVGGRGKVYHFN 96
                |||| :  | :   | : |      :| |       :::|| |  ::  :
Db     102 ----------PRIS-LPLGSEERPFLRFEAEHISNYTALLLSRDGRTLYVGAREALFALS 150

Qy      97 -----FPEGKNASVRTVNIGSTKGSCQDK-----QDCGNYI-TLLERRGNGLLVCGTNAR 145
                | |:   :        |  |  |     :|| |||  ||   |: |  ||| |
Db     151 SNLSFLPGGEYQELLWGADAEKKQQCSFKGKDPQRDCQNYIKILLPLSGSHLFTCGTAAF 210

Qy     146 KPSCW--NLVNDSVV------MSLGEMKGYAPFSPDENSLVLFEGDEVYSTIRKQEYNGK 197
           | |   |: | ::       : | : ||  || |:  |  |    |:| |     : |
Db     211 SPMCTYINMENFTLARDEKGNVLLEDGKGRCPFDPNFKSTALVVDGELY-TGTVSSFQGN 269

Qy     198 IPRFRRIRGESELYTSDTV--MQNPQFIKATIVHQD----QAYDDKIYYFFREDNPDKNP 251
           |   | :       |  ::  :|:| |: :  : :      |  |||||:|| |   :
Db     270 DPAISRSQSLRPTKTESSLNWLQDPAFVASAYIPESLGSLQGDDDKIYFFFSETGQEFEF 329

Qy     252 EAPLNVSRVAQLCRGDQGGESSLSVSKWNTFLKAMLVCSDAATNRNFNRLQDVFLLPDPS 311
                |||:|::|:||:|||  |   :| :|||| |:||       || ||||| |
Db     330 FENTIVSRIARICKGDEGGERVLQ-QRWTSFLKAQLLCSRPDDGFPFNVLQDVFTLSPSP 388
```

```
Qy    312 GQWRDTRVYGVFSNPWNY-----SAVCVYSLGDIDRVF---------RTSSLKGYHMGLS 357
          |||| |||||:: |:      |||||::: |: |||          |         :
Db    389 QDWRDTLFYGVFTSQWHRGTTEGSAVCVFTMKDVQRVFSGLYKEVNRETQQWYTVTHPVP 448

Qy    358 NPRPGMCL 365
          |||| |:
Db    449 TPRPGACI 456
```

RESULT 14
AAW17658
ID AAW17658 standard; Protein; 861 AA.
XX
AC AAW17658;
XX
DT 24-JUL-1997 (first entry)
XX
DE Mouse CD100 antigen.
XX
KW CD100 antigen; semaphorin; leukocyte; B cell; T cell; lymphocyte;
KW vaccine.
XX
OS Mus sp.
XX

FH	Key	Location/Qualifiers
FT	Peptide	1..41
FT		/label= Sig_peptide
FT	Protein	42..861
FT		/label= Mat_protein
FT	Domain	42..553
FT		/label= Semaphorin_domain
FT	Domain	554..630
FT		/label= Ig-like_domain
FT	Domain	631..732
FT		/label= Stalk_domain
FT	Domain	734..752
FT		/label= Transmembrane_domain
FT	Domain	753..861
FT		/label= Cytoplasmic_domain
FT	Modified-site	807..814
FT		/label= Phosphorylation
FT		/note= "putative tyrosine phosphorylation site"

XX
PN WO9717368-A1.
XX
PD 15-MAY-1997.
XX
PF 12-NOV-1996; 96WO-US18645.
XX
PR 09-NOV-1995; 95US-0556422.
XX
PA (DAND) DANA FARBER CANCER INST.
XX
PI Boussiotis V, Freeman GJ, Hall KT, Nadler LM, Schultze JL;
XX
DR WPI; 1997-280982/25.
DR N-PSDB; AAT60666.
XX
PT Nucleic acid molecule encoding CD100 antigen - which stimulates
PT leukocyte response, e.g. B cell aggregation, differentiation,
PT survival and T cell proliferation
XX
PS Example 8; Page 86-89; 135pp; English.
XX
CC Mouse CD100 antigen (AAW17657) is a novel leukocyte semaphorin-like
CC protein that stimulates a leukocyte response, including B cell
CC aggregation, B cell differentiation, B cell survival and/or T cell
CC proliferation. Its amino acid sequence was deduced from a cDNA
CC clone (AAT60666) isolated from murine T cells. Human CD100 antigen
CC (AAW17657) has also been identified. CD100 polypeptides and fusion
CC proteins, nucleic acids, and host cells expressing CD100 can be
CC utilised in diagnostic and therapeutic methods involving modulation
CC of B and T cell responses, neuron axonal growth and immune cell-
CC nerve cell interaction.
XX
SQ Sequence 861 AA;

Query Match 18.4%; Score 389.5; DB 18; Length 861;
Best Local Similarity 29.3%; Pred. No. 1.5e-29;
Matches 128; Conservative 59; Mismatches 151; Indels 99; Gaps 20;

```
Qy     24 RFGLPLR---LRLLLVFWVAAASAQGHSRSGPRISAVWKGQDHVDFSQPEPHTVLFHEPG 80
          |   |:|   | |::|   | | |       ||::  |:          |   | ||:||
Db      2 RMCAPVRGLFLALVVVLRTAVAFA-----PVPRLT--WE--------HGEVGLVQFHKPG 46

Qy     81 SF------------SVWVGGRGKVYHFNFPEGKNASVRTVNIG------------STKGS 116
           |           :::|| |  |:           :|  :||                |
Db     47 IFNYSALLMSEDKDTLYVGAREAVF----------AVNALNISEKQHEVYWKVSEDKKSK 96

Qy    117 CQDK-----QDCGNYITLLE-RRGNGLLVCGTNARKPSC--WNLVNDSVVMSLGEMKGYA 168
          | :|      :| ||| :|:      | |||||| :|:|   || :   :    : ||
Db     97 CAEKGKSKQTECLNYIRVLQPLSSTSLYVCGTNAFQPTCDHLNLTSFKFLGKSEDGKGRC 156

Qy    169 PFSPDENSLVLFEGDEVYSTIRKQEYN--GKIPRFRRIRGESELYTSDTV--MQNPQFIK 224
          || |  :   :  | |:||      ||  |  |   |    | | |   :  :  | |:
Db    157 PFDPAHSYTSVMVGGELYS---GTSYNFLGSEPIISRNSSHSPLRTEYAIPWLNEPSFVF 213

Qy    225 ATIVHQD----QAYDDKIYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWN 280
          | :: :     :  |||:|:|| | : :      | : |||::|:|||||  :|   ||
Db    214 ADVIQKSPDGPEGEDDKVYFFFTEVSVEYEFVFKLMIPRVARVCKGDQGGLRTLQ-KKWT 272

Qy    281 TFLKAMLVCSDAATNRNFNRLQDVFLLPDPSGQWRDTRVYGVFS---NPWNYSAVCVYSL 337
          :|||| |:||   :   || |||||:|  |    ::   | ||:   |    |||| |:|
Db    273 SFLKARLICSKPDSGLVFNILQDVFVLRAPG--LKEPVFYAVFTPQLNNVGLSAVCAYTL 330

Qy    338 GDIDRVF-----------RTSSLK--GYHMGLSNPRPGMCLPKKQ---------PIPTET 375
            :: ||             |  |   |:  :  |||| |:  :           :| :|
Db    331 ATVEAVFSRGKYMQSATVEQSHTKWVRYNGPVPTPRPGACIDSEARAANYTSSLNLPDKT 390

Qy    376 FQVADSHPEVAQRVEPM 392
          |    || :   | |:
Db    391 LQFVKDHPLMDDSVTPI 407
```

RESULT 15
AAW58540
ID AAW58540 standard; Protein; 861 AA.
XX
AC AAW58540;
XX
DT 02-SEP-1998 (first entry)
XX
DE Human semaphorin.
XX
KW Human; semaphorin; diagnosis; nervous disease; immune disease;
KW nerve extension inhibiting activity.
XX
OS Homo sapiens.
XX
PN JP10155490-A.
XX
PD 16-JUN-1998.
XX
PF 27-NOV-1996; 96JP-0332900.
XX
PR 27-NOV-1996; 96JP-0332900.
XX
PA (SUMU) SUMITOMO SEIYAKU KK.
XX
DR WPI; 1998-391044/34.
DR N-PSDB; AAV31121.
XX
PT New human semafolin gene - useful in the diagnosis of nervous system
PT and immune disorders
XX

PS Claim 1; Page 10-12; 15pp; Japanese.
XX
CC The present sequence represents human semaphorin (translated from the
CC Japanese specification as semafolin). Semaphorin has nerve extension
CC inhibiting activity. The semaphorin gene is useful for the diagnosis,
CC treatment and researches on nervous diseases and immune diseases.
XX
SQ Sequence 861 AA;

Query Match 18.4%; Score 389.5; DB 19; Length 861;
Best Local Similarity 29.3%; Pred. No. 1.5e-29;
Matches 128; Conservative 59; Mismatches 151; Indels 99; Gaps 20;

```
Qy      24 RFGLPLR---LRLLLVFWVAAASAQGHSRSGPRISAVWKGQDHVDFSQPEPHTVLFHEPG 80
           |   |:|   | |::|   | | |       ||::  |:          |   | ||:||
Db       2 RMCAPVRGLFLALVVVLRTAVAFA-----PVPRLT--WE--------HGEVGLVQFHKPG 46

Qy      81 SF------------SVWVGGRGKVYHFNFPEGKNASVRTVNIG------------STKGS 116
            |            :::|| |  |:         :|  :||              |
Db      47 IFNYSALLMSEDKDTLYVGAREAVF----------AVNALNISEKQHEVYWKVSEDKKSK 96

Qy     117 CQDK-----QDCGNYITLLE-RRGNGLLVCGTNARKPSC--WNLVNDSVVMSLGEMKGYA 168
           | :|      :| ||| :|:       | ||||||  :|:|   || :   :    : ||
Db      97 CAEKGKSKQTECLNYIRVLQPLSSTSLYVCGTNAFQPTCDHLNLTSFKFLGKSEDGKGRC 156

Qy     169 PFSPDENSLVLFEGDEVYSTIRKQEYN--GKIPRFRRIRGESELYTSDTV--MQNPQFIK 224
           || |  :   :  | |:||      ||  |  |   |    | | |   :  :  | |:
Db     157 PFDPAHSYTSVMVGGELYS---GTSYNFLGSEPIISRNSSHSPLRTEYAIPWLNEPSFVF 213

Qy     225 ATIVHQD----QAYDDKIYYFFREDNPDKNPEAPLNVSRVAQLCRGDQGGESSLSVSKWN 280
           | :: :     :  |||:|:|| | : :       | : |||::|:|||||  :|   ||
Db     214 ADVIQKSPDGPEGEDDKVYFFFTEVSVEYEFVFKLMIPRVARVCKGDQGGLRTLQ-KKWT 272

Qy     281 TFLKAMLVCSDAATNRNFNRLQDVFLLPDPSGQWRDTRVYGVFS---NPWNYSAVCVYSL 337
           :|||| |:||   :   || |||||:|  |    ::   | ||:   |    ||||  |:|
Db     273 SFLKARLICSKPDSGLVFNILQDVFVLRAPG--LKEPVFYAVFTPQLNNVGLSAVCAYTL 330

Qy     338 GDIDRVF-----------RTSSLK--GYHMGLSNPRPGMCLPKKQ---------PIPTET 375
             :: ||           |  |   |:  :  |||| |:  :           :| :|
Db     331 ATVEAVFSRGKYMQSATVEQSHTKWVRYNGPVPTPRPGACIDSEARAANYTSSLNLPDKT 390

Qy     376 FQVADSHPEVAQRVEPM 392
           |    || :   | |:
Db     391 LQFVKDHPLMDDSVTPI 407
```

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Job time : 29.9038 secs